

MINOT AIR FORCE BASE

2009

WATER QUALITY REPORT

5 MDOS/SGOJ
10 Missile Ave
Minot AFB, ND 58705
OFFICIAL BUSINESS

Postage

Terms for this Report

AL (Action Level): The concentration of a contaminant, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health.

mg/L (milligram per liter): Or part per million, the parts of contaminant per million parts of water. Roughly equivalent to one drop per 10 gallons of water.

MRDL (Maximum Residual Disinfection Level): The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

ND (Not Detected): Or below the detectable level of the test procedure.

NTU (Nephelometric Turbidity Units): A measure of how clean the water is, caused by suspended matter in the water.

pCi/l (picocuries per liter): A measure of radioactivity

ppm (parts per million): Or milligrams per liter, roughly equal to one drop per ten gallons of water or one minute in two years.

ppb (parts per billion): Or micrograms per liter, roughly equal to one drop in ten thousand gallons of water or one minute in two thousand years.

TT (Treatment Technique): A

Table 1. Detected Regulated Contaminants

Contaminant	MCLG	MCL	Level or Range	Date Tested	Source of Contaminant
INORGANIC CONTAMINANTS					
Arsenic (ppb)	0	10	163	10/07	Erosion of natural products; runoff from orchards; runoff from glass and electronics production wastes
Nitrate +Nitrite (ppm)	10	10	0.12	2/09	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
DISINFECTION BYPRODUCTS					
Total Haloacetic Acids (ppm)	0	60	12 10.61 to 11.45	3/09	Byproduct of drinking water chlorination
Total Trihalomethanes (ppb)	0	80	50 25.21 to 60.11	3/09	Byproduct of drinking water chlorination
DISINFECTANTS					
Chloramine residual (ppm)	MRDLG 4	MRDL 4	14 11 to 15	3/09	Water additive used to control microbes
OTHER CONTAMINANTS					
Copper (ppm)	13	AL=13	0.031	9/09	Corrosion of household plumbing systems; erosions of natural deposits; leaching from wood preservatives
Lead (ppb)	0	AL=35	103	9/09	Corrosion of household plumbing systems
Total Coliforms	0	5% of monthly samples	0	2009	Naturally present in the environment
RADIOACTIVE CONTAMINANTS					
Gross Alpha (pCi/l) Inc RA Exc RN&U	15	15	152	11/09	Erosion of natural products
Radium combined (226,228)(pCi/l)	0	5	0.00919	11/09	Erosion of natural products
Uranium combined (ppb)	0	30	0.722	11/09	Erosion of natural products

*This value represents the 90th percentile value of the most recent round of sampling.

Table 2. Other Parameters

Hardness	150 mg/l or 8.8 grains per gallon
Total dissolved Solids	733 mg/l
Conductivity	1220 μ hos/cm
Sodium	223 mg/l
Fluoride	1.95 mg/l
pH	8.9
Calcium	53 mg/l



We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. Minot AFB buys all of its water from the City of Minot who draws the water from the Minot and Sundre aquifers. Because of the excellent quality of Minot water, the only treatments required are chlorine for disinfection purposes and fluoride for dental health purposes.

I ask your support in protecting and conserving our water resources. They are critical to the continued well-being of our community, our way of life, and our children's future.

Colonel Douglas A. Cox
Commander, 5th Bomb Wing

WHERE DOES OUR WATER COME FROM?

Minot has two sources of water: the Minot Aquifer and the Sundre Aquifer. The Minot Aquifer follows the Souris River in this vicinity, and the wells are in the valley in the west part of Minot. The Sundre Aquifer comes from the north, travels under Minot, turns and goes southeast to the county line. The wells are about five miles southeast of town where the aquifer passes under the Souris River. The Minot Water Plant is located beside the Souris River at 900 16th Street Southwest. Minot used approximately 60% Sundre Aquifer and about 40% Minot Aquifer water in 2009.

Minot is currently working on what is called the NAWS or Northwest Area Water Supply project. This will bring Missouri River water from Lake Sakakawea to Minot where it will be treated and sent out to satisfy the water needs of much of northwest North Dakota, including Minot AFB.

WELLHEAD PROTECTION

The City of Minot participates in North Dakota's Wellhead Protection Program. The City of Minot has completed the delineation and contaminant/land use inventory elements. Based on information from these elements, our source water has been determined to be moderately susceptible to potential contaminants. Copies of the Wellhead Protection plan and other relevant information regarding this program can be obtained from the City of Minot Engineers Office, Public Works during normal office hours.

THE SAFE DRINKING WATER ACT

The Safe Drinking Water Act (SDWA) was first passed in 1974. It was amended in 1986 and again in 1996. As part of the 1996 amendments all customers must receive a report on the quality of their drinking water. This report covers the calendar year 2009. These results represent the latest tests performed on our water. Also included in the report are pertinent subjects such as water sources, water quality, and a description of terms used.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate the water poses a health risk. More information about contaminants and potential effects can be obtained by calling EPA's Safe Drinking Water Hotline (800-426-4791).

A FEW WORDS ABOUT WATER QUALITY

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally- occurring or result from urban storm run-off, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, storm water runoff, and residential uses.

Organic chemicals, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water run-off and septic systems.

Radioactive materials, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) and Prevention guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Minot AFB is responsible for providing high quality drinking water, but cannot control the vast number of external factors that affect water quality.

Use water filters and avoid cooking with lead-contaminated drinking water. Information and steps to reduce lead exposure are available at <http://www.epa.gov/sdwa/contaminants/>.



ANALYSIS OF MINOT AFB DRINKING WATER

There are 83 substances that are regulated by the EPA